

Work Order ID 56783

March 10, 2010 8:04:16 AM



Page 1

Item ID: D212-664-207TRN

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Turning Detail

Start Date: 3/10/10 Start Qty: 1.00



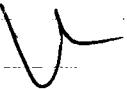
Cust Item ID:

Required Date: 3/12/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: 

Date: Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
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D212-664-247

Rev B

0.00

100



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA706
2-Turn first side as per Folio FA706
3- File transition lines smooth.

AWM / MB

10-03-11

110



QC1- Inspect dimensions to dimension sheet

0.00

QC

Memo

0.00

Quality Control

AWM / MB

10-03-11

120



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA706
2- File transition lines smooth.
3-Remove sand and plugs

AWM

10-03-11

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
Description

130



QC1- Inspect dimensions to dimension sheet

QC

Quality Control

Set Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

0.00

0.00

/ - ~ Awm/0-3-11

140



QC8- Inspect parts - second check

QC

Quality Control

0.00

0.00

Σ 10(82),2

OK

150



Crosstubes Chemical Conversion

HandFXtube

Hand Finishing Crosstubes

0.00

0.00

OK

OK

MB 10-03-17

W/O:		WORK ORDER CHANGES							
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Page 3

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Cust Item ID:

Required Date: 3/12/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC3- Inspect Part Finish

0.00

AM 10-03-17

QC

Memo

0.00

Quality Control

170



Packaging

0.00

10 03 17

Packaging

Memo

0.00

Packaging

Identify and stock in kanban rack
Location: Crosstube cell

180



QC21- Final Inspection - Work Order Release

0.00

1003.02

QC

Memo

0.00

Quality Control

MF 10-3-17

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Page 1

March 10, 2010 8:04:04 AM

Work Order ID: 56783



Parent Item: D212-664-207TRN



Parent Item Name: Crosstube Turning Detail

Start Date: 3/10/10

Required Date: 3/12/10

Comments: IPP Rev:A New Issue 08-03-06 DD verified by:ec

Start Qty: 1.00

Required Qty: 1.00

IPP Rev B 08.04.02 Removed polish EC verified DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Item	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6008-132		Manufactured		No		110	Each	6.0000	1.0000			



Crosstube extrusion

MB

10-03-11

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG	6
50892	6

14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	56783
Description: Crosstube Assembly (205/212 Low Aft)	Part Number:	D212-664-247
Inspection Dwg: D212-664-247 Rev: A B 10.03.10		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.438	+/-0.010	0.438	✓		
	2.680	+0.005/-0.000	2.680	✓		
	2.680	+0.005/-0.000	2.680	✓		
	2.687	+0.005/-0.000	2.687	✓		
	2.802	+0.005/-0.000	2.802	✓		
	2.906	+0.005/-0.000	2.908	✓		
	3.009	+0.005/-0.000	3.009	✓		
	3.112	+0.005/-0.000	3.112	✓		
	3.250	+0.005/-0.000	3.250	✓		
SIDE B	0.438	+/-0.010	0.438	/		
	2.680	+0.005/-0.000	2.680	/		
	2.680	+0.005/-0.000	2.680	/		
	2.687	+0.005/-0.000	2.687	/		
	2.802	+0.005/-0.000	2.802	/		
	2.906	+0.005/-0.000	2.908	/		
	3.009	+0.005/-0.000	3.009	/		
	3.112	+0.005/-0.000	3.112	/		
	3.250	+0.005/-0.000	3.250	/		
	128.27	+/-0.030	128.270	/		

Measured by: <i>AW/M3</i>	Audited by: <i>S</i>	Prototype Approval: N/A
Date: 10-03-11	Date: 12/07/12	Date: N/A

Rev	Date	Change	Revised by	Approved
A	08.11.07	New Issue (P/O D212-664-207)	KJ/EC	<i>JK</i>

B

Item	Qty	Qty	Part Number	Description
	-247	-247B		
1	X		D212-664-247	CROSSTUBE ASSEMBLY (205/212 LOW AFT)
2		X	D212-664-247B	CROSSTUBE ASSEMBLY (214 LOW AFT)
3	1	1	D6008-132	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	2	2	D3660-1	CUFF
7	4	4	MS21920-28	CLAMP (OR MS21920-30)
8	44	44	CR3212-4-06	RIVET (OR M78853-4-06)
9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
10	A/R	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6008-132
FINISHED LENGTH = 128.268±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-247 = 36.6 lbs (PER IIN-D212-664)
D212-664-247B = 36.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 16) INSTALL D3660-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 17) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

W6
S6783RELEASED
2009-10-79

B	REVISE GENERAL NOTES/PART LIST; UPDATE TO CURRENT STANDARDS; ADD -247B (ZN C4-2, D5-2)	RF	09.09.30
A	NEW ISSUE	CP	07.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>RP</i>	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>RP</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>DS</i>	D212-664-247	SHEET 1 OF 4
APPROVED	<i>RP</i>	TITLE	SCALE
DE APPR.	<i>RP</i>	CROSSTUBE (205/212 LOW AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PROVIDED, OR SHOWN TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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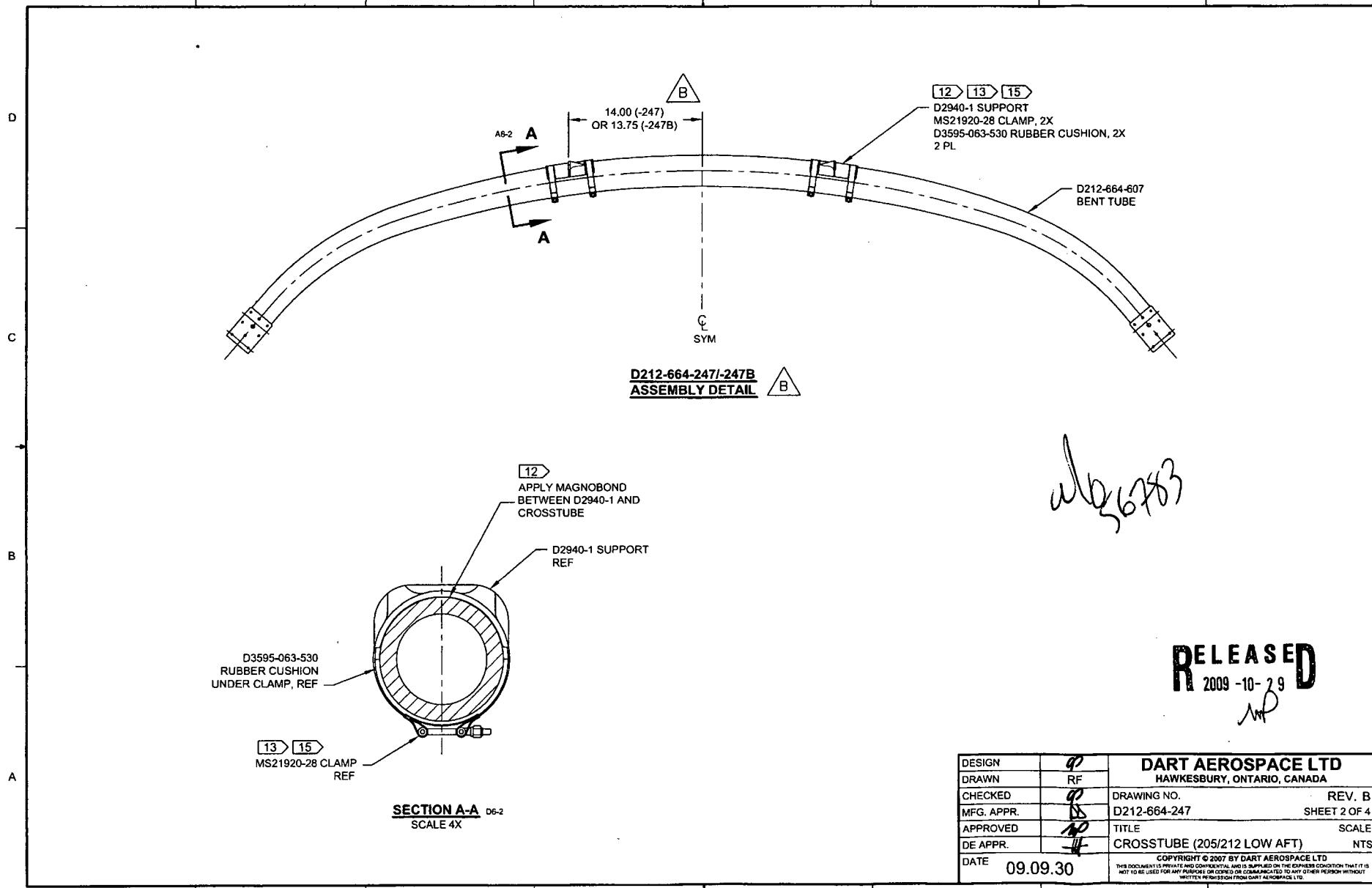
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8 7 6 5 4 3 2 1



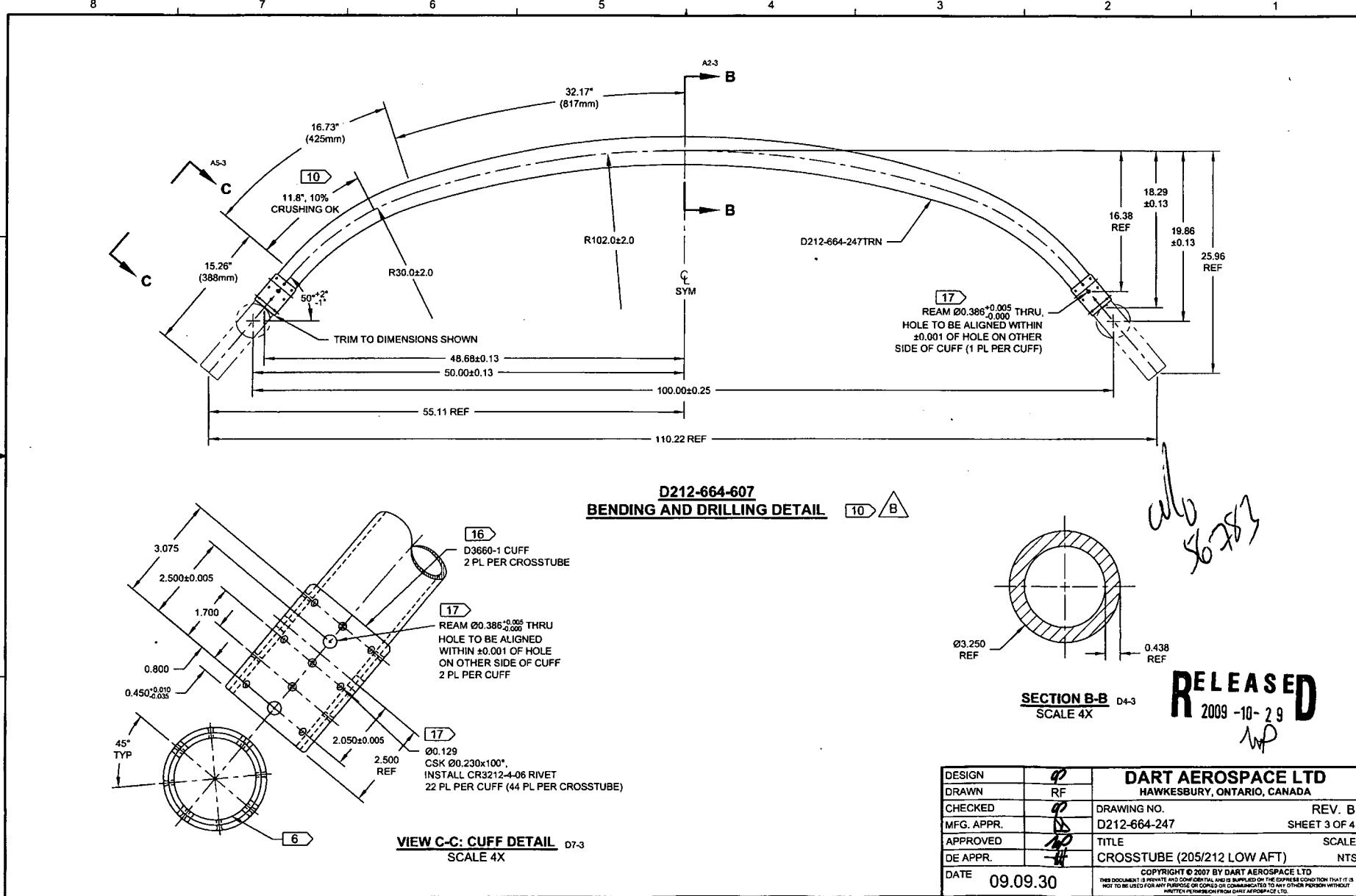
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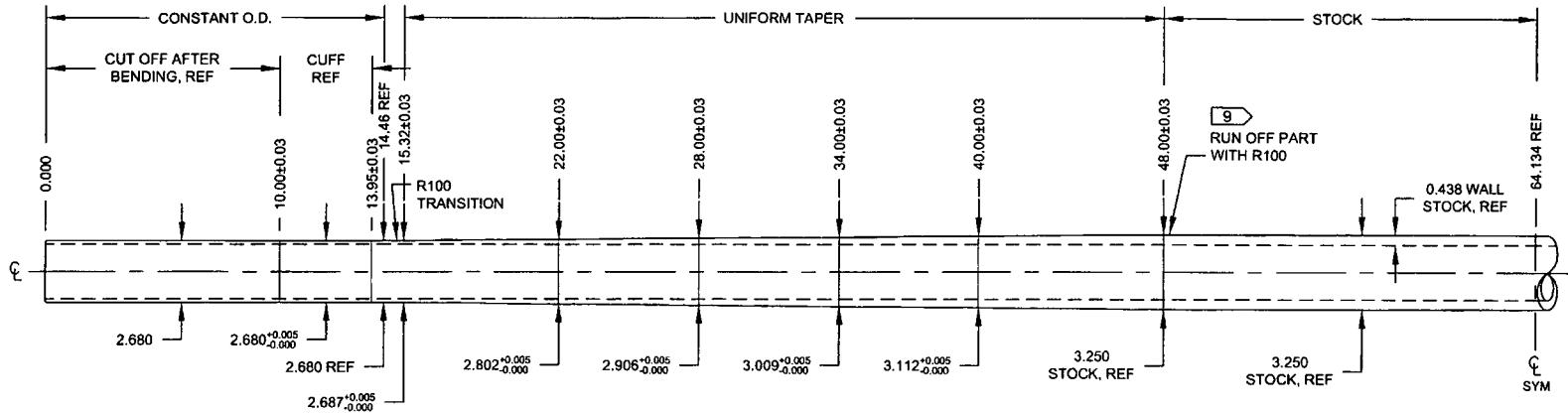
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D212-664-247TRN
TURNING DETAIL

1696863

RELEASED
2009-10-29
MM

DESIGN	90	DART AEROSPACE LTD		
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA		
CHECKED	90	DRAWING NO.	REV. B	
MFG. APPR.	DS	D212-664-247	SHEET 4 OF 4	
APPROVED	11/11	TITLE	SCALE	
DE APPR.		CROSSTUBE (205/212 LOW AFT)	NTS	
DATE	09.09.30	<small> COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE EXPRESS WRITTEN CONSENT OF DART AEROSPACE LTD. </small>		

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